REMARKS

Claims 1-17 and 28-36 are pending in this application.

Claims 1-10 and 28 are allowed.

Claims 12-13, 16-17 and 29-36 are objected to.

Claims 11, 14 and 15 are rejected

The final office action dated Jan. 10, 2007 indicates that claims 11 and 14-15 are rejected under 35 USC §102(b) as being anticipated by Seymour U.S. Patent No. 5,967,049. The '102 rejection is respectfully traversed.

Seymour discloses a mechanical printing press that includes an ink fountain roller 40 and a segmented blade 42 disposed along the outer surface of the roller 40 (col. 1, lines 24-27; and col. 4, lines 64-67). The amount and thickness of ink supplied to the fountain roller 40 is adjusted by changing the spacing between the edge 46 of each blade segment 44 and the outer surface of the roller (col. 1, lines 28-31; and col. 5, lines 12-15).

Seymour's printing press further includes an ink key control system 70 having ink keys 54 that adjust the position of the segmented blade to control the amount of ink fed to a vertical strip of a print medium (col. 1, lines 39-41; and col. 5, lines 15-25). Positions of the ink keys 54 are moved by bi-directional motors 58 (col. 5, lines 27-28). Potentiometers 60 generate signals that indicate the ink key positions (col. 5, lines 34-39). The potentiometers also indicate the positions of the blade segments 44 (col. 6, lines 24-27). Figure 4 shows that the signals generated by the potentiometers 60 are sent via line 64 to a display 80.

A processing unit 68 receives information about plate coverage on line 72 (col. 5, lines 50-53). The plate coverage data can be provided by an optical plate scanner (col. 5, lines 53-54). The processing unit 68 generates a signal on line

66, which is sent to the bi-directional motor 58. The signal on line 66 is used to position the ink keys (col. 5, lines 43-44).

Claim 11 recites apparatus comprising a print engine for depositing ink at a thickness that is determined at least in part by a control parameter; and a processor for estimating the control parameter by applying an estimation model to measured state parameters of the apparatus.

Seymour's control signal (the signal on line 66) is generated as a function of measured plate coverage and G (see equation 24). The plate coverage is measured from printed images by the optical plate scanner (col. 5, lines 53-54).

G is also measured from printed images. According to col. 16, lines 6-25, G is determined by taking empirical measurements of printed images at known key settings. Although Seymour presents a mathematical model that shows a relationship between I (a displayed ink key value) and G, he does not use the ink key value (I) to generate G.

Thus, Seymour generates a control parameter by applying a model to measurements of printed images. Seymour does not estimate a control parameter by applying an estimation model to measured state parameters of his mechanical printing press.

Page 2 of the office action states that ink key value I is a control parameter. Seymour disagrees. Ink key value I indicates the measured position of an ink key (col. 5, lines 36-39). Figure 4 clearly shows that the ink key value I is measured by a potentiometer 60 and supplied on line 64 to a display 80. The ink key value I is merely displayed. Seymour does not teach or suggest that the measured ink key value is used to control the bi-directional motor 58. The signal on line 66 controls the bi-directional motor 58 and, therefore, the key position.

Page 2 of the office action states that ink key value is estimated. Seymour disagrees. The ink key value I is measured by a potentiometer 60.

Page 3 of the office action cites elements 230, 232 and 236 of Figure 31, as well as a passage at col. 17, line 41 to col. 18, line 18. However, their relevance is not clear. Figure 31 illustrates an "ink film thickness control loop" (col. 17, lines 42-44). A conversion circuit 230 converts <u>desired ink density</u> into a desired ink film thickness, and conversion circuit 232 converts <u>measured ink density</u> into an ink film thickness value (col. 17, lines 44-49). A color monitor system 220 measures the optical density of a printed image (col. 17, lines 29-30).

The ink film thickness control loop makes a comparison between the desired and actual ink film thickness values (at block 234), and the results are fed to a PID loop 236 (col. 17, lines 50-51). An output of the PID loop 236 is fed to block 240, which outputs control signals for the ink keys (col. 18, lines 23-27). Block 238 adjusts the PID loop for plate coverage (col. 17, lines 58-65). Col. 18, lines 5+ indicate that PID parameters of block 238 relate to plate coverage.

According to col. 17, lines 60-65, a change in measured coverage causes a change in ink thickness. The ink film thickness control loop of Figure 31 does not estimate a control parameter by applying an estimation model to measured state parameters of the mechanical printing press. The control loop of Figure 31 generates a control parameter according to measurements of printed pages.

Thus, Seymour does not teach or suggest the apparatus of claim 11. Therefore, claim 11 and its dependent claims 12 and 14-16 should be allowed over Seymour.

Claims 37-39 are new. These new claims depend from claim 11. New claim 37 recites that the print engine is of the type used for digital printing presses. New claim 38 clarifies that the model is applied to measured state parameters of the apparatus, not to measurements of printed pages. New claim 39 recites that the measured state parameters include past measurements of the state of the apparatus.

The examiner is respectfully requested to withdraw the rejections of the claims. The examiner is encouraged to contact the undersigned to discuss any issues that might remain.

Respectfully submitted,

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